

CLAIMS

1. A tuneable electromagnetic delay line (100, 300), comprising a first conductor (110, 310) with a first main direction of extension (A), said first
5 conductor being arranged on top of a non-conducting substrate (240, 340), characterized in that the delay line (100, 300) additionally comprises a layer of a ferroelectric material (130, 330) with first and second main surfaces, which layer separates the first conductor (110, 310) and the substrate (240, 340), and in that the delay line also comprises a second conductor (120, 320)
10 with a second main direction of extension (B), with the first and second main directions of extensions essentially coinciding with each other, and with the first (110, 310) and second (120, 320) conductors being each other's mirror image with respect to an imagined line (C) in the center of the delay line along said first (A) and second (B) main directions of extension, said tuning
15 being accomplished by applying a voltage between said first and second conductors.
2. The tuneable delay line (100, 300) of claim 1, in which the first conductor (110, 310) alternately comprises sections with a second direction of
20 extension and sections with a third direction of extension, and with the second conductor (120, 320) alternately comprising sections with a fourth direction of extension and sections with a fifth direction of extension, where said second and fourth directions of extensions essentially coincide with each other, and said third and fifth directions of extensions essentially coincide
25 with each other.
3. The tuneable delay line (300) of claim 1 or 2, additionally comprising a third conductor (350) arranged between the substrate and the layer of ferroelectric material, said third conductor being arranged so that it extends from a point
30 below the first conductor to a point below the second conductor, in a direction of extension which is essentially perpendicular to said first and second directions of extension.

4. The tunable delay line (500, 700) of claim 2, in which the second conductor (505, 710) is arranged between the ferroelectric layer and the substrate, so that the first and second conductors are on opposite sides with respect to the ferroelectric layer's main surfaces.

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5. The tunable delay line (700, 800) of claim 4, in which the first conductor's second direction (712) of extension is at an angle α with respect to the first main direction of extension and the first conductor's third direction (713) of extension is at an angle β with respect to the first main direction of extension,
10 α being in the interval between zero and ninety degrees, and β being in the interval between ninety and one hundred eighty degrees.

6. The tunable delay line (700) of claims 4 or 5, in which the first and second conductors (710, 720) are arranged in the delay line so that the first
15 conductor's sections (712) in the second direction of extension cross the second conductor's sections (713) in the fourth direction of extension, and so that the first conductor's sections (711) in the third direction of extension cross the second conductor's sections (714) in the fifth direction of extension.

20 7. The tunable delay line (800) of claim 4 or 5, in which the first (810) and second (820) conductors are arranged in the delay line so that points (815) where the first conductor's sections in the second and third directions of extension meet overlap points in the third conductor where the third conductor's sections in the third and fourth direction of extension meet.